



DEPOSITION SYSTEMS FOR ORGANIC ELECTRONICS

**PRODOS-200** Polymer Vapor Phase Deposition

**RIXTRON**

## POLYMER VAPOR PHASE DEPOSITION

# PRODOS-200

PRODOS-200

### Process Module Overview

Innovative carrier gas enhanced CVD method to deposit polymer materials from the gas phase

For applications in the field of organic electronics and functional layers with following properties:

- ▶ Dielectric
- ▶ Conductive
- ▶ Hydrophobic
- ▶ Oleophobic
- ▶ etc.

#### Unique Advantages:

- ▶ Enabling high deposition rates and throughput
- ▶ High organic precursor utilization efficiency
- ▶ Excellent thickness uniformity and reproducibility
- ▶ Dry process avoiding the need for additional drying process and potential dissolving of previously deposited layers and structures





## PRODOS-200

# PVPD System Specification

### PVPD Process Module

**Dual plenum Showerhead for separate injection of reactive process gases to the reaction chamber**

**Substrate Size 200 x 200 mm<sup>2</sup>**

**Substrate Type: Glass substrate or flexible substrate laminated to glass carrier**

### Customizable Precursor and gas mixing system:

- ▶ Gaseous Precursors
- ▶ Bubbler Source for liquid precursors
- ▶ Vaporizer for liquid precursors with low vapor pressure
- ▶ Trijet® for vaporization of liquid precursors with very low vapor pressure
- ▶ Evaporation Source for solid precursors  
(e.g. di-para-xylylene for Parylen deposition)

### Stage for insitu patterning by shadow mask

**Active temperature control for substrate:  
integrated heating / cooling block**

**Optional Indexer for Segment Deposition  
and combinatorial optimization of process  
parameters**

**Optional modules for process activation: remote  
plasma or hot filament**

**Fully computer-controlled**



**OEC-200 Demo Cluster** in AIXTRON's organic electronics laboratory

OEC-200

# Cluster Integration Options

## TRANSFER MODULE (TM)

### TM-200

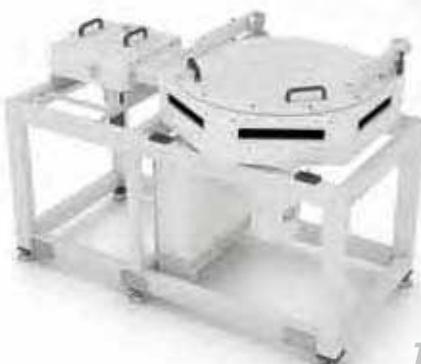
#### Automated transfer of substrates and masks

- ▶ LP (low pressure ~ 1 hPa) section for OVPD
- ▶ HV (high vacuum~ 10<sup>-6</sup> hPa) section for vacuum thermal evaporation (VTE) processes 4, 5 or 6 facets/ports for flexible configuration with process modules (PM) and utility modules (UM)

#### PA-200 Pre-Alignment (PA) Module

- ▶ Pre-alignes substrates for frame-less handling
- ▶ Rotates substrate 180° in passage configuration between adjacent TMs

**TM-200 / 6 facets**



**TM-200 / 5 facets**



**TM-200 / 4 facets**

OEC-200

# Utility Modules

## MASK MAGAZINE

### MM-200

- ▶ Holds up to 10 masks
- ▶ LP or HV option
- ▶ Sliding door interface to fab space or GB



## LOAD LOCK

### LL-200

- ▶ LP or HV option
- ▶ Sliding door interface to fab space or GB
- ▶ Cassette for up to 10 substrates



## FLIP CHAMBER

### FC-200

- ▶ Flips substrate from facing up (OVPD) to facing down (VTE) and vice versa



AIXTRON

# Global Presence



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